(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number
WO 2004/011126 A1

(51) International Patent Classification[7]: B01D 53/06

(21) International Application Number:
PCT/US2003/004941

(22) International Filing Date: 18 February 2003 (18.02.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/398,894 26 July 2002 (26.07.2002) US

(71) Applicant *(for all designated States except US)*: **DURR ENVIRONMENTAL, INC.** [US/US]; 31285 Durr Drive, Wixom, MI 48393 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **GUPTA, Ajay** [US/US]; 28 Nancy Place, Berkeley Heights, NJ 07922 (US).

(74) Agents: **DEGRAZIA, Gregory, D.** et al.; Howard & Howard Attorneys, P.C., 39400 Woodward Avenue, Suite 101, Bloomfield Hills, MI 48304 (US).

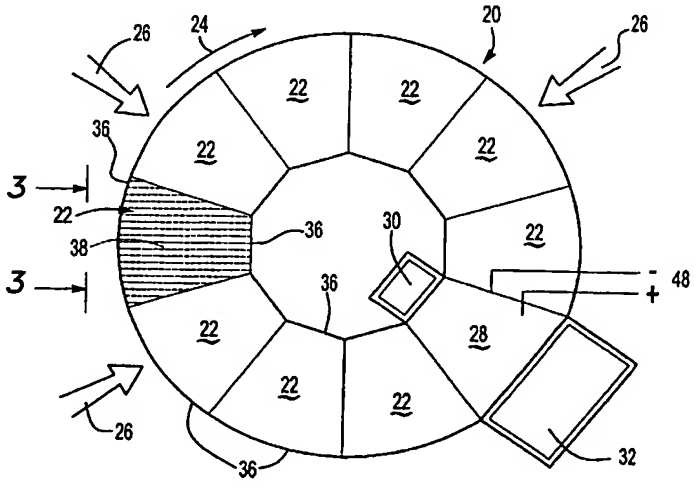
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

[Continued on next page]

(54) Title: SORPTION CONCENTRATOR WITH ELECTRICALLY HEATED DESORPTION REGENERATION



(57) Abstract: A sorption concentrator for removing contaminants from a gas stream comprising a plurality of sorption units, each having a semi-conductive honeycomb substrate having convoluted surfaces and parallel channels coated with a sorption material, a gas flow system directing gas to be cleaned, through a majority of the sorption units and directing clean gas through the remaining sorption units during a regeneration cycle, and a source of current connected to the semi-conductive foil substrate resistively heating the sorption units during the regeneration cycle. The honeycomb construction is preferably formed of aluminum providing rapid heating and eliminating the requirement for heated desorb gas.

WO 2004/011126 A1

— *with amended claims*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.